

VIA FAX AND MAIL (including 5 pages in total)

TBK-Patent POB 20 19 18 80019 München

PRV InterPat

Box 5055
SE-102 42 Stockholm

Patentanwälte

Dipl.-Ing. Reinhard Kinne
Dipl.-Ing. Hans-Bernd Pellmann
Dipl.-Ing. Klaus Grams
Dipl.-Ing. Aurel Vollnhals
Dipl.-Ing. Thomas J.A. Leson
Dipl.-Ing. Dr. Georgi Chivarov
Dipl.-Ing. Matthias Grill
Dipl.-Ing. Alexander Kühn
Dipl.-Ing. Rainer Böckelen
Dipl.-Ing. Stefan Klingele
Dipl.-Chem. Stefan Bühling
Dipl.-Ing. Ronald Roth
Dipl.-Ing. Jürgen Faller
Dipl.-Ing. Hans-Ludwig Trösch

Rechtsanwälte

Michael Zöbisch

May 17, 2004

PCT-Patent Application No.: PCT/IB02/02492

Nokia Corporation et al.

Our ref: WO 34762

(Frist: --)

Reference is made to the Written Opinion dated February 16, 2004 and the International Preliminary Examining Authority's facsimile letter of May 14, 2004.

Enclosed herewith a complete set of claims 1 to 25 is filed as requested.

Jürgen Faller
Patentanwalt
TBK-Patent

Enclosure:

- New set of claims 1 to 22

Enclosure of May 17, 2004

PCT-Patent Application No.: PCT/IB02/02492

Nokia Corporation et al.

Our ref: WO 34762

5

New claims 1 to 25

10 1. A method for balancing the load of resources in a packet
switched connection within a communication system, said
system comprising processing units (11; 12) for performing
communication, at least one load balancing unit (12; 22)
for distributing the load to said processing units (11;
15 12), and a data storage (14; 24), said method comprising
the steps of:

obtaining a current connection state as well as a
current load state of said processing units from said data
storage (14; 24);

20 selecting by said load balancing unit (12; 22) a
processing unit on a per packet basis irrespective of a
specific connection to which a respective packet belongs;

maintaining information about the load state of each
processing unit (11; 21) so that said selecting step is
25 performed by selecting a processing unit to serve and
process a respective packet based on the load state.

2. A method according to claim 1, wherein said data storage
is accessed to by said load balancing unit.

30

3. A method according to claim 1, wherein said data storage
is accessed to by said processing units.

4. A method according to claim 1, wherein said information
35 about the load state is maintained as a Boolean state.

5. A method according to claim 1, wherein a processing unit is selected in a round-robin fashion.

6. A method according to claim 1, wherein a supported
5 service profile for each processing unit is maintained.

7. A method according to claim 6, wherein said supported service profile is used as additional selection criteria.

10 8. A method according to claim 1, wherein said load balancing unit obtains a load state from each processing unit upon a hardware based mechanism.

9. A method according to claim 1, wherein said load
15 balancing unit obtains a load state from each processing unit upon a packet based mechanism.

10. A method according to claim 9, wherein a load state of a processing unit is inserted into a packet processed by
20 said unit.

11. A method according to claim 9, wherein a packet returned by a processing unit is interpreted as a flag for a free resource.

25

12. A method according to claim 1, wherein excess traffic is redirected to another load balancing unit, said excess traffic being defined upon the number of active processing units.

30

13. A device unit for serving and processing packets of a communication connection, comprising:

means adapted to inform a load state of said device to a balancing unit; and

means adapted to obtain a state of said communication connection,

wherein said device unit is adapted to serve and process packets of plural connections.

5

14. A device unit according to claim 13, wherein said obtaining means is adapted to retrieve said communication connection state from a data storage.

10

15. A device unit according to claim 13, wherein said obtaining means is adapted to retrieve said communication connection state from a packet being under processing.

15

16. A device unit for balancing a load of each of multiple processing units performing a packet switched communication connection, comprising:

means for maintaining a load state of each of said processing units; and

means adapted to select a processing unit on the basis of a respective load state on a per packet basis irrespective of a specific connection to which a respective packet belongs.

25

17. A device according to claim 16, wherein a load state of a processing unit is contained in a table.

18. A device according to claim 16, wherein a load state of a processing unit is expressed as a Boolean value.

30

19. A device according to claim 16, wherein a load state of a processing unit is expressed as value which corresponds to the percentage of load.

35

20. A device according to claim 16, wherein said selecting means is adapted such that a processing unit is selected

also on the basis of a parameter indicating the service profile supported by a respective processing unit.

21. A device according to claim 20, wherein said parameter
5 is contained in a table.

22. A device according to claim 16, further comprising
means adapted to insert a communication connection
state into a packet to be routed.
10

23. A device according to claim 16, wherein the processing
units are comprised of multicore digital signal processing
means having a shared data storage for all cores, whereby
said device comprises a first level of load balancing for
15 selecting a digital signal processing means and a second
level of load balancing for selecting a single core.

24. A device according to claim 16, further comprising
means for redirecting excess traffic to another device
20 according to claim 16, wherein said excess traffic is
defined upon the number of active processing units.

25. A system adapted to perform a method according to any
of the claims 1 to 12.
25